

REMARKS/ARGUMENTS

Claims 1, 5 and 8–10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Scott “Sludge characteristics and disposal alternatives for the pulp and paper industry” in view of Lee 1,155,741.

According to the Office Action, Lee discloses waste fiber bagasse, separated from virgin bagasse, undergoing drying with heat of flue gases.

This is not what Lee discloses. Lee discloses drying the virgin bagasse and thereafter separating the waste fiber from the papermaking fiber and conveying the waste fiber directly to the burners. In other words, the papermaking raw material is dried, the raw material is thereafter separated into papermaking fibers and waste fiber, and the waste fiber is burned. The purpose of the drying is to prepare the fibers for separation.

As stated beginning on line 15 on page 2:

The moist bagasse is dried, preferably by agitation in a current of highly heated gases of combustion, to a moisture content of 15 to 25 per cent, and is thereby brought to such condition that those portions of the pith which still adhere to the fibrous strips may be, to a large degree, shaken free by impact or detached by a shredding or picking process. The degree to which the drying is carried is chosen solely with reference to the facility with which the component tissues may be separated. Satisfactory results as regards the detachment of the pith and the separation of the selected fiber from the pith and rind may be obtained...

The paragraph goes on to describe several devices for separating the selected fiber (the papermaking fiber) from the pith and rind.

Lee is describing drying the papermaking raw material, the virgin fibers, and then separating it into the papermaking fibers and waste fibers, not drying the waste fibers after separation from the papermaking fibers. This would be analogous to using heat from the mill to dry the chips, not to dry the waste material.

The combination of Lee with Scott et al does not disclose drying the waste material of Scott et al with heat from the pulping process. It discloses, at best, drying the raw material of Scott et al with heat from the pulping process.

According to the Office Action, Figure 1 of Scott *et al.* discloses a process in which the waste material generated by virgin fiber is sent for treatment. Figure 1 does not designate the material going into the mill to be virgin fiber. It designates it as raw material. On pages 270-271 the raw material can be recycled paper and newspaper. These are not virgin fibers. Scott does not say whether virgin fiber or recycled fiber or a blend of the two should be used.

Scott *et al.* make the statement that dried sludge could be used as bedding material for cattle and rely on three sources for this statement.

One source is Paul S. Weigand and Jay P. Unwin, *Tappi Journal*, "Alternate management of pulp and paper industry solid wastes, 77(4): 91–97 (1994). A copy of the article is attached.

Wiegand *et al.* state that sludge pellets can be used as kitty litter or animal bedding. A pellet is not an animal bedding fiber agglomeration that retains its bulk, fibrous structure or appearance. Wiegand *et al.* does not disclose the present inventions..

Another source is T. R. Aspiro *et al.*, *Methods for pulp and paper mill sludge utilization and disposal*, Environmental Protection Technology Series, Washington. Copies of the pertinent pages from this monograph are attached.

The monograph describes tests done at the Camas, Washington, Crown Zellerbach mill. Three systems are described.

The first system is shown in Figure 3 and described on pages 15 and 19 of the monograph. The sludge runs through a press which expels liquid to increase the solids content to 37–40%. The press cake is transported to a fluff, a hammer mill, which breaks up the sludge filter cake. The sludge is then dropped into the hot gas stream from the incinerator and carried up through the dryer. The dried sludge and gas are separated in a cyclone. The gas is scrubbed and discharged to the atmosphere. The dried sludge at 75–89% solids is carried to the incinerator and burned. This system uses the incinerator gases for drying the sludge so it appears that this system is used only when the incinerator is used. The end product is not dried sludge but burned sludge.

The second system is shown in Figure 4 and described in the first two full paragraphs on page 19. In this system the sludge is pressed and fluffed only. It is not dried in the dryer. In the trials, the first system was modified by removing the flange under the fluffer and dropping the sludge onto a conveyor belt to take the sludge to a dump truck for transport to the site of use. Most of the sludge for the experimental farm and burning trials was obtained in this way. The end product is a partially dewatered but not dried sludge. It would be at 37–40% solids, the solids content from the press. The system does not use recovered heat from a pulping process to dry the sludge. It appears that this is the sludge that was used for the cattle bedding studies.

The third system is shown in Figure 5 and described in the third full paragraph on page 19. This system was used for a short time only. The sludge is pressed and fluffed as before. The fluffed pulp is dried using a gas as a fuel. This system does not use recovered heat from a pulping process to dry the sludge.

Aspirate *et al.* does not disclose the present invention.

I have been unable to locate the third source, an article by the Progress in paper recycling staff: *Progress in Paper Recycling*, "Utilization of Mill Residues (sludges)". 3(1): 64–70 (1993). It would be appreciated if the Examiner would forward a copy of this article so it can be determined whether the article is pertinent to the present application. The other two are not pertinent to the present application and since the third source is a survey it is probable that it is not pertinent either.

A *prima facie* case has not been made as to claims 1, 5, and 8–10.

Claims 2–4 and 12–16 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Scott *et al.* in view of Lee further in view of Sugarman *et al.* 2,708,418. Sugarman has been cited for the use of sodium silicate in poultry bedding.

The combination of Sugarman *et al.* with Scott *et al.* and Lee does not overcome the deficiencies of Scott *et al.* and Lee noted above.

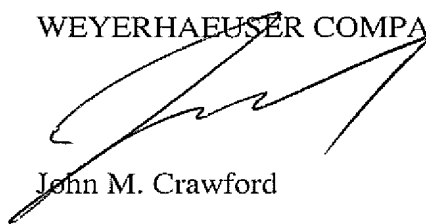
A *prima facie* case has not been made as to claims 2–4 and 12–16.

CONCLUSION

Reconsideration and allowance of the claims presently in the application is respectfully requested.

Respectfully submitted,

WEYERHAEUSER COMPANY

A handwritten signature in black ink, appearing to read 'John M. Crawford', is written over the company name.

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